

AMENDMENTS TO THE CLAIMS

1 (currently amended). A printing system including a plurality of data processing devices and a plurality of printing devices for executing a printing operation when ~~received~~ a printing job signal is received from any one of the plurality of data processing devices, ~~respectively~~, comprising:

communication ~~means~~ system for communicating data among the plurality of printing devices;

printing ~~means~~ system provided in ~~each~~ at least one of the plurality of printing devices for executing a print job based on the print job signal; and

a controller for executing the following ~~processings~~; steps:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices[.];

designating a managing printing device among the printing devices belonging to the same language group[.]; and

~~transmitting a status signal from each of the printing devices belonging to the same language group to the designated managing printing device through the communication means; and~~

~~transferring a printing job signal received by a printing device being inoperative to execute a print job to another one of the printing devices of the same language group to which the inoperative printing device belongs.~~

wherein a first printing device transfers the printing job signal received from any one of the plurality of data processing devices to the managing printing device if the first printing device is inoperative to execute the printing job signal, and

the managing printing device transfers the printing job signal received from the first printing device to a second printing device belonging to the same language group as the first printing device so that subsequent processing of the printing job signal is not performed by the managing printing device.

2 (currently amended). A printing system according to claim 1, wherein the managing printing device ~~provides with~~ comprises a first storage ~~means~~ system for storing data regarding other printing devices belonging to the same language group[.];

~~each~~ at least one of the other printing devices ~~provides with~~ comprises a second storage ~~means~~ system for storing information regarding the managing printing device of the same language group[.]; and

said controller executes the following ~~processings~~ steps:

transmitting the processing language and ~~data-processing-capability~~ information processing speed of ~~each~~ at least one of the plurality of printing devices to ~~all~~ at least one other printing device[[s,]];

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices[.];

designating a printing device having the highest ~~data-processing-capability~~ information processing speed in the same language group as the managing printing device[.];

~~making~~ causing the designated managing printing device to store information about ~~all~~ at least one other printing device[[s]] belonging to the same language group into said first storage ~~means, system;~~ and

~~making each of all~~ causing at least one of the printing devices other than the managing printing device belonging to the same language group to store information about the managing printing device into ~~each~~ at least one other second storage ~~means~~ system.

3 (currently amended). A printing system according to claim 2, wherein the controller selects a printing device to which the managing printing device ~~has to~~ distributes the printing job signal based on the ~~data-processing-capability~~ information processing speed.

4 (currently amended). A printing system including a plurality of data processing devices and a plurality of printing devices for executing a printing operation when ~~received~~ a printing job signal is received from any one of the plurality of data processing devices, ~~respectively~~, comprising:

communication ~~means~~ system for communicating data among the plurality of printing devices;

printing ~~means~~ system provided in each of the plurality of printing devices for executing a print job based on the print job signal; and

a controller for executing the following ~~processings~~; steps:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices[[,]]; and

designating a printing device capable of processing different languages in the plural language groups[[,]]; and

~~transmitting a status signal from each of the printing devices belonging to the same language group to the managing printing device through the communication means; and~~

~~transferring a printing job signal received by a printing device being inoperative to execute a print job to another one of the printing devices of the same language group to which the inoperative printing device belongs.~~

wherein a first printing device transfers the printing job signal received from any one of the plurality of data processing devices to a managing printing device if the first printing device is inoperative to execute the printing job signal, and

the managing printing device transfers the printing job signal received from the first printing device to a second printing device belonging to the same language group as the first printing device so that subsequent processing of the printing job signal is not performed by the managing printing device.

5 (currently amended). A printing system according to claim 4, wherein the managing printing device ~~provides with~~ comprises a first storage ~~means~~ system for storing information regarding other printing devices belonging to the same language group[[,]];

~~each~~ at least one of the other printing devices ~~provides with~~ comprises a second storage ~~means~~ system for storing data regarding the managing printing device of the same language group[[,]]; and

said controller executes the following ~~processings~~ steps:

transmitting the processing language and ~~data-processing-capability~~ information processing speed of ~~each~~ at least one of the plurality of printing devices to ~~all~~ at least one other printing device[[s,]];

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices[[,]];

designating a printing device having the highest ~~data-processing-capability~~ information processing speed in the same language group as the managing printing device[[,]];

~~making~~ causing the designated managing printing device to store information about ~~all~~ at least one other printing device[[s]] belonging to the same language group ~~into~~ said in the first storage ~~means, system;~~ and

~~making each of all~~ causing at least one of the printing devices other than the managing printing device belonging to the same language group to store information about the managing printing device into ~~each~~ at least one other second storage ~~means~~ system.

6 (currently amended). A printing system according to claim 5, wherein the controller selects a printing device to which the managing printing device ~~has to~~ distributes the printing job signal based on the ~~data-processing-capability~~ information processing speed.

7 (currently amended). A printing system including a plurality of data processing devices and a plurality of printing devices for executing a printing operation when ~~received~~ a printing job signal is received from any one of the plurality of data processing devices, ~~respectively~~, comprising:

communication ~~means~~ system for communicating data among the plurality of printing devices;

printing ~~means~~ system provided in each of the plurality of printing devices for executing a print job based on the print job signal; and

a controller for executing the following ~~processings~~; steps:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices[[,]];

designating either one of the printing devices belonging to the same language group or one printing device belonging to plural language groups as a managing printing device; and

~~transmitting individual status signals from all printing devices belonging to the same language group to the managing printing device through the communication means; and~~

~~transferring a printing job signal received by a printing device being inoperative to execute a print job to another one of the printing devices of the same language group to which the inoperative printing device belongs.~~

wherein a first printing device transfers the printing job signal received from any one of the plurality of data processing devices to the managing printing device if the first printing device is inoperative to execute the printing job signal, and

the managing printing device transfers the printing job signal received from the first printing device to a second printing device belonging to the same language group as the first printing device so that subsequent processing of the printing job signal is not performed by the managing printing device.

8 (currently amended). A printing system according to claim 7, wherein the managing printing device ~~provides with~~ comprises a first storage ~~means~~ system for storing information regarding other printing devices belonging to the same language group[[,]];

~~each at least one~~ of the other printing devices ~~provides with~~ further comprises a second storage ~~means~~ system for storing information regarding the managing printing device of the same language group[[,]]; and

said controller executes the following ~~processings~~ steps:

transmitting the processing language and ~~data-processing capability~~ information processing speed of ~~each at least one~~ of the plurality of printing devices to ~~all at least one~~ other printing device[[s,]];

grouping the plurality of printing devices based on processing languages employed in ~~respective the~~ the printing devices[[,]];

designating a printing device having the highest ~~data-processing capability~~ information processing speed in the same language group as the managing printing device[[,]];

~~making causing~~ the designated managing printing device to store information about ~~all at least one of the~~ other printing devices belonging to the same language group ~~into said in the~~ first storage ~~means, system;~~ and

~~making each of all~~ causing at least one of the printing devices other than the managing printing device belonging to the same language group to store information about the managing printing device into ~~each at least one of the~~ second storage ~~means~~ system.

9 (currently amended). A printing device for executing a printing operation when ~~received~~ a printing job signal is received from any one of plural data processing devices comprising:

printing ~~means~~ system for executing a print job based on the printing job signal;

communication ~~means~~ system for communicating data between ~~the~~ a first printing device and at least one other printing device[[s]];

storage ~~means~~ system for storing information about other printing devices having a processing language ~~same as~~ compatible with that of the first printing device or a managing printing device ~~managing the printing device~~; and

a controller for executing the following ~~processings~~; steps:

grouping at least one other printing device[[s]] having a processing language ~~same as~~ compatible with that of the first printing device;

communicating data ~~regarding~~ indicative of the processing language and ~~data-processing capability~~ information processing speed of the first printing device ~~between to the~~ at least one other printing device[[s]] belonging to the same language group ~~while and~~ comparing the ~~data-processing capability~~ information processing speed of the first printing device with ~~those of the~~ information processing speed of the at least one other printing device[[s]];

if the first printing device has the highest ~~data-processing capability~~ information processing speed, designating ~~itself~~ as a managing printing device and storing information regarding other printing devices belonging to the same language group in[[to]] the storage ~~means~~ system and, if not, storing a printing device having the highest ~~data-processing capability~~ information processing speed among other printing devices as a managing printing device in[[to]] the storage ~~means~~ system; and

if the first printing device ~~itself~~ is the managing printing device, selecting one printing device to which the print job signal is to be delivered upon receiving a request for a print job from one of the other printing devices to deliver the print job signal to the selected printing device; and

if the first printing device ~~itself~~ is inoperable to execute a print job, sending the request for a print job and the print job signal to the managing printing device.

10 (currently amended). A program product stored in a recording medium executable by a computer for controlling a printing system including a plurality of data processing devices and a plurality of printing devices each of which executes a print job when ~~received~~ a print job signal is received, said program product including a program for:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices;

designating one of the printing devices belonging to the same processing language group as a managing printing device;

transmitting individual status signals from ~~all~~ at least one of the other printing devices belonging to the same processing language group to the designated managing printing device; and

delivering a print job signal received by one printing device ~~being~~ inoperable to execute a print job to ~~one of other~~ a second printing device[[s]] belonging to the same processing language group so that subsequent processing of the printing job signal is not performed by the managing printing device.

11 (currently amended). A program product according to claim 10 wherein a processing language and ~~data-processing capability~~ information processing speed of ~~each~~ at least one printing device are transmitted to ~~all~~ at least one other printing device[[s]];

~~all~~ a plurality of printing devices are grouped into one or more groups based on individual processing languages[[,]];

a printing device having the highest ~~data-processing capability~~ information processing speed among the printing devices belonging to the same processing language is assigned as a managing printing device;

the managing printing device stores information about ~~all~~ at least one other printing device[[s]] belonging to the same processing language group; and

~~all~~ at least one other printing device[[s]] stores information about the managing printing device, ~~respectively~~.

12 (currently amended). A program product according to claim 11, wherein the managing printing device selects a printing device to which a print job signal is be delivered based on ~~respective~~ the data-processing capability information processing speed of the printing device.

13 (currently amended). A program product stored in a recording medium executable by a computer for controlling a printing system including a plurality of data processing devices and a plurality of printing devices each of which executes a printing operation when ~~received~~ a print job signal is received, said program product including a program for:

~~assigning~~ designating a printing device belonging to plural processing language groups as a managing printing device;

transmitting ~~respective~~ status signals from ~~all~~ at least one of the other printing devices belonging to ~~each~~ at least one of the plural processing language groups to the managing printing device; and

delivering a print job signal received by a printing device ~~which is inoperable~~ to execute a print job to ~~one of other~~ a second printing device[[s]] belonging to the same processing language group so that subsequent processing of the printing job signal is not performed by the managing printing device.

14 (currently amended). A program product according to claim 13 wherein ~~each~~ at least one printing device transmits its processing language and ~~data-processing capability information~~ processing speed to ~~all~~ at least one other printing device[[s]];

~~all~~ a plurality of printing devices are grouped into one or more groups based on individual processing languages[[,]];

a printing device having the highest ~~data-processing-capability~~ information processing speed among the printing devices belonging to the same processing language is assigned as a managing printing device;

the managing printing device stores information about ~~all~~ at least one other printing device[[s]] belonging to the same processing language group; and

~~all~~ at least one other printing device[[s]] stores information about the managing printing device, ~~respectively~~.

15 (currently amended). A program product according to claim 14, wherein the managing printing device selects a printing device to which a job signal is to be delivered based on ~~respective~~ its information processing speed ~~data-processing-capability~~.

16 (currently amended). A program product stored in a recording medium executable by a computer for controlling a printing system including a plurality of data processing devices and a plurality of printing devices each of which executes a print job when ~~received~~ a print job signal is received, said program product including a program for:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices[[,]];

designating either one of the printing devices belonging to the same language group or one printing device belonging to plural language groups as a managing printing device;

transmitting individual status signals from ~~all~~ at least one of the printing devices belonging to the same language group to the managing printing device; and

transferring printing job signal received by a printing device ~~being~~ inoperative to execute a print job to ~~another one of the~~ a second printing device[[s]] of the same language group to which the inoperative printing device belongs so that subsequent processing of the printing job signal is not performed by the managing printing device.

17 (currently amended). A program ~~product~~ product according to claim 16, wherein the managing printing device ~~provides with~~ comprises a first storage ~~means system~~ for storing information regarding other printing devices belonging to the same language group[[,]]; ~~each at least one~~ of the other printing devices ~~provides with~~ comprises a second storage ~~means system~~ for storing information regarding the managing printing device of the same language group[[,]]; and

said controller executes the following ~~processings~~ steps:

transmitting the processing language and ~~data-processing capability~~ information processing speed of ~~each at least one~~ of the plurality of printing devices to ~~all at least one~~ other printing device[[s,]]; ~~grouping the plurality of printing devices based on one or more processing languages employed in respective the printing devices[[,]]; designating a printing device having the highest data-processing capability information processing speed in the same language group as the managing printing device[[,]]; making causing the designated managing printing device to store information about all at least one other printing device[[s]] belonging to the same language group into said first storage means; system; and making each of all causing at least one of the printing devices other than the managing printing device belonging to the same language group to store information about the managing printing device into each at least one other second storage means system.~~

18 (currently amended). A method for controlling a printing system including a plurality of data processing devices and a plurality of printing devices for executing a print job when ~~received~~ a print job signal is received from any one of the plurality of printing devices, ~~respectively~~ comprising the steps of:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices;

designating a managing printing device among the printing devices belonging to the same language group;

transmitting a status signal from ~~each of all~~ at least one of the printing devices belonging to the same language group to the managing printing device; and

transferring a print job signal received by a printing device being inoperative to execute a print job to ~~another one of the~~ a second printing device[[s]] of the same language group to which the inoperative printing device belongs so that subsequent processing of the printing job signal is not performed by the managing printing device.

19. A method for controlling a printing system including a plurality of data processing devices and a plurality of printing devices for executing a print job when ~~received~~ a print job signal is received from any one of the plurality of printing devices, ~~respectively~~ comprising the steps of:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices;

designating a printing device capable of processing different languages in the plural language groups among the printing devices as a managing printing device;

transmitting a status signal from ~~each of all~~ at least one of the printing devices belonging to the same language group to the managing printing device; and

transferring a print job signal received by a printing device ~~being~~ inoperative to execute a print job to ~~another one of the~~ a second printing device[[s]] of the same language group to which the inoperative printing device belongs so that subsequent processing of the printing job signal is not performed by the managing printing device.

20 (currently amended). A method for controlling a printing system including a plurality of data processing devices and a plurality of printing devices for executing a print job when ~~a received~~ a print job signal is received from any one of the plurality of printing devices, ~~respectively~~ comprising the steps of:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices;

selectively designating either ~~one of the~~ a printing device[[s]] belonging to the language group or ~~one~~ a printing device belonging to plural language groups as a managing printing device;

transmitting a status signal from ~~each of all~~ at least one of the printing devices belonging to the same language group to the managing printing device; and

transferring a print job signal received by a printing device ~~being~~ inoperative to execute a print job to ~~another one of the~~ a second printing device[[s]] of the same language group to which the inoperative printing device belongs so that subsequent processing of the printing job signal is not performed by the managing printing device.

21 (currently amended). A printing system including a plurality of data processing devices and a plurality of printing devices for executing a printing operation when ~~received~~ a printing job signal is received from any one of the plurality of data processing devices, ~~respectively~~, comprising:

communication ~~means~~ system for communicating data among the plurality of printing devices;

printing ~~means~~ system provided in each of the plurality of printing devices for executing a print job based on the print job signal;

storage ~~means~~ system for storing device information of ~~other~~ at least one other printing device[[s]]; and

a controller for ~~executing~~ performing the following ~~processings~~; steps:

grouping the plurality of printing devices into plural language groups based on processing languages employed in ~~respective the~~ printing devices ~~into plural language groups~~;

designating a printing device having the highest ~~data processing capability~~ information processing speed among printing devices capable of processing at least two different languages as the managing printing device;

storing device information about ~~all~~ at least one printing device[[s]] belonging to ~~each~~ at least one of the language groups processable by the designated managing printing device; and

transferring [[a]] printing job data ~~being transferred~~ from any printing device to ~~another a~~ second printing device belonging to the same language group so that subsequent processing of the printing job signal is not performed by the managing printing device.

22 (currently amended). A printing system according to claim 21 wherein the controller selects the managing printing device based on the device information about the plurality of printing devices, groups the plurality of printing devices based on ~~respective~~ processing languages processable by the managing printing device, transmits device information about printing devices belonging to ~~respective the~~ processing languages processable by the managing printing device and ~~notifies~~ transmits information about the managing printing device to ~~all~~ at least one other printing device[[s]] belonging to the ~~respective~~ language groups.

23 (currently amended). A printing system according to claim 22 further comprising ~~manual~~ selection ~~means~~ system for selecting the managing printing device manually ~~and or~~ arbitrarily based on the device information of the plurality of printing devices.

24 (currently amended). A printing system according to claim 21, wherein the controller transfers ~~[[a]] print job data, when transferred from any printing device to the managing printing device,~~ to a printing device having the ~~lowest data processing capability~~ minimum feature set necessary to process the print job data among the printing devices belonging to the same language group.

25 (currently amended). A printing device for executing a print job when ~~received~~ a printing job signal is received from any one of plural data processing devices comprising:

printing ~~means~~ system for executing a print job based on the printing job signal;

communication ~~means~~ system for ~~communication~~ communicating data between the printing device and other printing devices;

storage ~~means~~ system for storing information about at least one other printing device~~[[s]]~~ having a processing language ~~same as~~ compatible with that of the printing device or a managing printing device managing the printing device; and

a controller for executing the following ~~processings;~~ steps:

if the printing device ~~itself~~ has been selected as the managing printing device, storing device information regarding at least one other printing device~~[[s]]~~ belonging to the same language group into the storage ~~means;~~ system; and~~[[,]]~~

if ~~not~~ the printing device has not been selected as the managing printing device, storing the managing printing device of the printing device; ~~and~~ storing device information regarding the managing printing device;

if the printing device ~~itself~~ is not the managing printing device and is inoperative to execute a print job, then transferring print job data, which is received from one of the data processing devices without management of the managing printing device, to the managing printing device through the communication ~~means~~ system; and

if the printing device itself is the managing printing device, then transferring print job data to a second printing device of the same language group which is operative to execute a print job.

26 (currently amended). A program product stored in a recording medium executable by a computer for controlling a printing system including a plurality of data processing devices and a plurality of printing devices each of which executes a print job when ~~received~~ a print job signal is received, said program product including a program for:

grouping the plurality of printing devices based on processing languages employed in ~~respective~~ the printing devices;

designating a printing device belonging to at ~~least~~ least two language groups and having the highest ~~data processing capability~~ information processing speed as a managing printing device;

storing device information regarding ~~all~~ at least one of the printing devices belonging to individual language groups processable by the managing printing device; and

when print job data, which is received from one of the data processing devices without management by the managing printing device, is transferred from any one of the printing devices, transferring the print job data to a second printing device belonging to the same language group.

27 (currently amended). A program product according to claim 26 ~~wherein further executes~~ executing the following processings steps:

selecting a printing device belonging to at least two language groups and having the highest ~~data processing capability~~ information processing speed among the printing devices belonging to at least two language groups as a managing printing device;

grouping the plurality of printing devices based on processing languages processable by ~~respective~~ the printing devices[[]]; and

transmitting device information regarding ~~all~~ at least one of the printing devices belonging to the language groups processable by the managing printing device and notifying the managing printing device ~~to~~ of printing devices belonging to each language group.

28 (currently amended). A program product according to claim 27 in which the managing printing device is manually ~~and~~ or arbitrarily selectable among the plurality of printing devices.

29 (currently amended). A program product according to claim 26 in which the print job data, when transferred from any printing device to the managing printing device, is transferred to a printing device having the ~~lowest data processing capability~~ minimum feature set necessary to process the print job data among the printing devices belonging to the same language group.

30 (currently amended). A method for controlling a printing system including a plurality of data processing devices and a plurality of printing devices each executing a print job when ~~received~~ a print job signal is received, comprising steps of:

(a) grouping the plurality of printing devices based on the processing languages employed in ~~respective~~ the printing devices;

(b) designating a printing device belonging to at least two language groups and having the highest ~~data processing capability~~ information processing speed among printing devices belonging to at least two language groups as a managing printing device;

(c) storing device information regarding ~~all~~ at least one of the printing devices belonging to ~~respective~~ a language group[[s]] processable by the managing printing device; and

(d) transferring print job data, which is received from one of the data processing devices without management by the managing printing device, ~~when transferred~~ from ~~any~~ a first printing device, to ~~another~~ a second printing device belonging to the same language group.

31 (new). A printing system comprising:

a plurality of data processing apparatuses for transmitting a printing job data;

a plurality of printing apparatuses for printing based on the printing job data received from any one of the data processing apparatuses and for sending apparatus information including at least a printer language;

a network line for connecting between the plurality of data processing apparatuses and the plurality of printing apparatuses; and

a controller for receiving printing information from the plurality of printing apparatuses via the network line and for grouping at least two of the plurality of printing apparatuses based on the printer language information.

32 (new). A printing system according to claim 31, wherein the controller designates a managing printing apparatus selected from the printing language group.

33 (new). A printing system according to claim 32, wherein the controller designates a managing printing apparatus based on the printer language information.

34 (new). A printing system according to claim 32, wherein the controller designates the managing printing apparatus by input from a user interface.

35 (new). A printing system according to claim 32, wherein the controller notifies the managing printing apparatus of printing apparatuses which are not the managing printing apparatus via the network line.

36 (new). A printing system according to claim 35, wherein if a second printing apparatus, which is not the managing printing apparatus, cannot print based on the job data received from one of the data processing apparatuses, the second printing apparatus transmits the printing job data to the managing printing apparatus via the network line.